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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NASA-12303 (March 2003)
NASA
Superseding NASA-12303 (September 1999)

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03/03

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NASA-12303 (March 2003)
NATIONAL AERONAUTICS **NASA**
AND SPACE ADMINISTRATION **Superseding NASA-12303**
(September 1999)

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SECTION 12303

CABINETS, STEEL AND WOOD
03/03

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NOTE: Delete, revise, or add to the text in this section to cover project requirements. Notes are for designer information and will not appear in the final project specification.

This section covers steel and wood cabinets, counter tops, surfacing, and associated hardware.

Associated work found in other sections includes rough carpentry, architectural woodwork, metal casework, and plumbing.

Drawings must indicate:

Cabinet locations, dimensions, and counter top heights

details of support and anchorage

a schedule to identify the finish and color to be used

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PART 1 GENERAL

1.1 REFERENCES

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NOTE: The following references should not be manually edited except to add new references. References not used in the text will automatically be deleted from this section of the project specification.

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The publications listed below form a part of this section to the extent referenced:

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A208.1	(1993) Wood Particleboard
ANSI B18.6.1	(1981) Screw, Wood

ASTM INTERNATIONAL (ASTM)

ASTM A 167	(1999) Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
ASTM A 325	(2000) Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
ASTM A 325M	(2000) Standard Specification for High Strength Bolts for Structural Steel Joints (Metric)
ASTM A 366/A 366M	(1996) Standard Specification for Steel, Sheet, Carbon, Cold-Rolled, Commercial Quality
ASTM C 1036	(1991) Standard Specification for Flat Glass
ASTM D 13	(1992) Spirits of Turpentine
ASTM D 4689	(1990) Standard Specification for Adhesive, Casein Type
ASTM D 4690	(1999) Standard Specification for Urea Formaldehyde Resin Adhesives
ASTM F 594	(1991) Carbon and Alloy Steel Nuts
ASTM F 836	(1990) Standard Steel Nuts (Metric)

BUILDERS HARDWARE MANUFACTURERS ASSOCIATION (BHMA)

BHMA A156.9	(1994) Cabinet Hardware

INTERNATIONAL CODE COUNCIL (ICC)

ICC IPC	(2000) International Plumbing Code

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA LD 3	(2000) High-Pressure Decorative Laminates

SCIENTIFIC APPARATUS MAKERS ASSOCIATION (SAMA)

SAMA LF6a	(1978) Laboratory and Hospital Service Fittings

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS FF-B-588	(Rev D) Bolt, Toggle; and Expansion Sleeve, Screw
FS FF-S-325	(Int Amd 3) Shield, Expansion; Nail, Expansion; and Nail, Drive Screw (Devices, Anchoring, Masonry)
FS MM-L-736	(Rev C; Am 1) Lumber; Hardwood
FS MM-L-751	(Rev H) Lumber; Softwood
FS TT-C-490	(Rev C; Am 2) Cleaning Methods for Ferrous Surfaces and Pretreatments for Organic Coatings
FS TT-C-520	(Rev B; Am 1) Coating Compound, Bituminous, Solvent Type, Underbody (for Motor Vehicles)
FS TT-E-489	(Rev J) Enamel, Alkyd, Gloss, Low Voc Content
FS TT-E-491	(Rev C) Enamel; Gloss, Synthetic (for Metal and Wood Furniture)
FS TT-F-336	(Rev E) Filler, Wood, Paste
FS TT-V-121	(Rev H) Varnish, Spar, Water-Resisting
FS WW-P-541	(Rev E; Am 1) Plumbing Fixtures

1.2 SUBMITTALS

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NOTE: Review submittal description (SD) definitions in Section 01330, "Submittal Procedures," and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control. Include a columnar list of appropriate products and tests beneath each submittal description.

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The following shall be submitted in accordance with Section 01330, "Submittal Procedures," in sufficient detail to show full compliance with the specification:

SD-02 Shop Drawings

Fabrication drawings shall be submitted for steel and wood cabinets in accordance with the paragraphs entitled, "[Wood Cabinet] [Particle Board Cabinet] [Steel Cabinet] [Counter Top and Back Splash] Fabrication," of this section.

Installation Drawings shall be submitted for steel and wood cabinets in accordance with the paragraph entitled, "Installation," of this section.

SD-03 Product Data

Manufacturer's catalog data shall be submitted for the following items:

Corrosion-Resistant Steel
Plywood
Hardwood
Glass
Adhesives
Filler Material
Particle Board
Turpentine
Varnish
Fasteners
Steel Sinks
Service Fixtures
Accessories and Hardware
Softwoods
Plastic Laminate

SD-04 Samples

Samples shall include:

Counter Top and Back Splash, one each, 4 inches 100 millimeter in width, submitted as one unit or as separate items.

Accessories and Hardware, one each.

Manufacturer's Standard Color Charts shall be submitted in accordance with paragraph entitled, "General," of this section.

SD-07 Certificates

Certificates shall be submitted for the following items showing conformance with the referenced standards contained in this section.

Corrosion-Resistant Steel
Plywood
Hardwood

Glass
Adhesives
Filler Material
Particle Board
Turpentine
Varnish
Fasteners
Steel Sinks
Service Fixtures
Accessories and Hardware

SD-08 Manufacturer's Instructions

Manufacturer's Instructions shall be submitted for in accordance with paragraph entitled, "General," of this section.

1.3 DELIVERY, STORAGE, AND HANDLING

Cabinets shall be delivered, stored, and handled in a manner that will prevent damage and disfigurement.

Temporary skids shall be provided under units weighing more than [_____] pounds kilogram.

PART 2 PRODUCTS

2.1 GENERAL

Manufacturer's Standard Color Charts shall be submitted for wood and metal cabinets showing the manufacturer's recommended color and finish selections.

Manufacturer's Instructions shall be submitted for wood and metal cabinet systems including special provisions required to install equipment components and system packages. Special notices shall detail impedances, hazards and safety precautions.

Cabinets shall be the manufacturer's standard sizes of type and design indicated. Both wall and base cabinet assemblies shall consist of individual units joined into continuous sections as indicated. Fastenings shall be accomplished to permit removal and replacement of individual units without affecting the remainder of the installation.

2.2 MATERIALS

Steel for cabinet construction shall conform to ASTM A 366/A 366M.

Corrosion-Resistant Steel shall conform to ASTM A 167, Type [302] [304] [316] Finish 4.

Douglas-fir Plywood shall conform to ICC IPC, exterior type, fully waterproof bond.

Glass shall conform to ASTM C 1036, Type I, Class 1, Quality q3, 1/4 inch 6 millimeter thick, for unframed sliding glass doors; other glass shall

conform to ASTM C 1036, Type II, Class 1, Quality q8, 7/32 inch 5 millimeter thick.

Adhesives for application of plastic laminate shall be a thermosetting urea-resin Type II conforming to ASTM D 4690 as recommended by the manufacturer of the laminate. Adhesive for wood members shall conform to ASTM D 4689.

Filler Material shall conform to FS TT-F-336.

Hardwood shall conform to FS MM-L-736, standard hardwood lumber, S2S.

Hardwood plywood shall conform to ICC IPC.

Particle Board shall conform to ANSI A208.1, Type 1, Grade M or medium density.

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NOTE: Review NEMA LD 3 and insert style, type, grade, class, and finish as required.
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Plastic Laminate shall conform to NEMA LD 3, Style [_____], Type [_____], Grade [_____], Class [_____], Finish [_____].

Softwoods shall conform to FS MM-L-751, factory and shop grade.

Turpentine shall conform to ASTM D 13.

Varnish shall conform to FS TT-V-121.

Accessories and Hardware shall conform to the following requirements, as applicable:

Extension drawer slides: BHMA A156.9, Type B85071

Semiconcealed hinges: BHMA A156.9, Type B81201, 1-1/2 inches

Full surface hinges: BHMA A156.9, Type B81131, 1-1/2 inches

Knob pulls: BHMA A156.9, 1-inch diameter, Type B12132

Bar type pulls: BHMA A156.9, 4-inch overall length, Type B12012

Semiconcealed hinges: BHMA A156.9, Type B81201, 40 millimeter

Full surface hinges: BHMA A156.9, Type B81131, 40 millimeter

Knob pulls: BHMA A156.9, 25 millimeter diameter, Type B12132

Bar type pulls: BHMA A156.9, 100 millimeter overall length, Type B12012

Locks, keying, and keys: As directed

Catches: Magnetic, 5-pound 22 newton (5-pound) pull

Sliding door set:

Impregnated fiberboard track

Nylon glides

Fasteners shall conform to the following:

Screws: ANSI B18.6.1, Group, Type and Class as applicable

Anchoring Devices: FS FF-S-325, Group, Type, and Class as applicable

Toggle bolts: FS FF-B-588, Type I, Class A, Style 2

Nuts: ASTM F 594, corrosion-resistant steel

Bolts: ASTM A 325, heavy, hexagon head bolts corrosion-resistant steel

Nuts: ASTM F 836, corrosion-resistant steel

Bolts: ASTM A 325M, heavy, hexagon head bolts corrosion-resistant steel

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NOTE: Sink for inset-type installation shall be as specified in Section 15102, "Plumbing."

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Corrosion-resistant Steel Sinks:

[18-gage 1.3 millimeter corrosion-resistant steel, integral with corrosion-resistant steel countertop]

[18-gage 1.3 millimeter corrosion-resistant steel, nonintegral, self-rimming]

Drain holes in center of bowl

Underside coated with 1/8-inch 3 millimeter thick sound deadener

Die-form, seamless, raised edges at front and ends

Cove corners to 1/2-inch 13 millimeter radius

Equip with strainers and tail pieces

Sound deadening shall conform to FS TT-C-520.

Service Fixtures shall conform to the following requirements:

Fixtures shall be in accordance with the water conservation policy as stated in the Standard Plumbing Codes, Appendix J.

Faucets: splashback mounted, cast brass, chrome plated, FS WW-P-541

Faucets: deck mounted, cast brass, chrome plated, FS WW-P-541

Gas, air, and vacuum, distilled water, steam, and deionized water cocks: cast brass, chrome plated, ground key type

Drains, strainers, and taps: brass, chrome plated, FS WW-P-541

Index buttons: plastic, color codes in accordance with SAMA LF6a

Special items: nipples and locknuts with each fixture shall be as directed.

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NOTE: Delete any of the following types that are not applicable.

Type I, zinc phosphate

Type II, iron phosphate

Type III, organic-paint, varnish, lacquer

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Metal pretreatment coatings: FS TT-C-490, Type I

Metal pretreatment coatings: FS TT-C-490, Type II

Metal pretreatment coatings: FS TT-C-490, Type III

Enamel: FS TT-E-491, Class 2

2.3 WOOD CABINET FABRICATION

Wall and base cabinets shall be essentially of same construction and same outside appearance. Cabinets shall be constructed with frame fronts and solid ends, or frame construction throughout. Frame members shall be 3/4-by 1-1/2-inch 20 by 40 millimeter kiln-dried hardwood, using mortise and tenon, dovetailed or doweled, and glued together. Top and bottom corners shall be braced with hardwood blocks that are glued with water-resistant glue and nailed in place. Base cabinets shall be provided with an integral toe space at least 2-1/2 inches 65 millimeter deep and 4 inches 100 millimeter high. Drawers shall be mounted on [metal guides] [hardwood guides] [renewable plastic] [fiber guides]. Shelves shall be [fixed] [removable] [and] [adjustable], as indicated.

Minimum thicknesses of materials for frame-front, solid-end cabinet construction shall be as follows:

Backs and bottoms of base cabinets and tops of wall cabinets: 1/8-inch 3 millimeter tempered hardboard. Bottoms shall be braced with wood members glued in place.

Cabinet ends: 1/2-inch 15 millimeter hardwood-veneer plywood

Doors: 3/4-inch 20 millimeter [hardwood] [softwood] plywood, [solid] [hollow] core doors

Drawer fronts: 3/4-inch 20 millimeter hardwood

Drawer bottoms: 3/16-inch 4.76 millimeter plywood or tempered hardboard. Drawer bottoms over 1 foot 3 inches 380 millimeter wide shall be braced with wood members glued in place.

Drawer sides and backs: 1/2-inch 15 millimeter hardwood

Interior partitions or dividers: 1/2-inch 15 millimeter [fir plywood, Grade A-A] [hardwood]

Shelves: Grade A-B plywood, supported on ends and 24 inches 600 millimeter on centers

Adjustable shelves: 3/4-inch 20 millimeter plywood

Base cabinet shelves: 5/8-inch 16 millimeter plywood

Wall cabinet shelves: [1/2-inch 15 millimeter [plywood] [glued-up solid wood]] [1/4-inch 6 millimeter plywood with a solid-wood frame]

Minimum thicknesses of materials for frame-type cabinet construction shall be as follows:

Cabinet ends: 1/4-inch 6 millimeter hardwood plywood

Backs, bottoms, partitions, and dividers: 3/16-inch 4 millimeter tempered hardboard in a frame

Materials for other components shall be as specified.

2.4 PARTICLE BOARD CABINET FABRICATION

Wall and base cabinets shall be essentially of same construction and covered with plastic laminate as indicated. Cabinets shall be constructed with frame fronts and solid ends throughout. Frame members shall be 3/4-by 1-1/2-inch 20 by 40 millimeter kiln-dried hardwood, using mortise and tenon, dovetailed or doweled, and glued together. Top and bottom corners shall be braced with hardwood blocks that are glued with water-resistant glue and nailed in place. Base cabinets shall be provided with an integral toe space at least 2-1/2 inches 65 millimeter deep and 4 inches 100 millimeter high. Drawers shall be mounted on [metal guides] [hardwood guides] [renewable plastic or fiber guides]. Shelves shall be [fixed] [removable] [and] [adjustable], as indicated.

Minimum thicknesses of materials for cabinet construction shall be as follows:

Backs and bottoms of base cabinets and tops of wall cabinets:

3/16-inch 4 millimeter tempered hardboard. Bottoms shall be braced with wood members glued in place.

Cabinet ends: 3/4-inch 20 millimeter particle board with a plastic laminate covering

Doors: 3/4-inch 20 millimeter particle board laminated on [front surface] [rear surface] [all edges]

Drawer fronts: 3/4-inch 20 millimeter particle board laminated on all edges

Drawer bottoms: 1/8-inch 3 millimeter plywood or tempered hardboard. Drawer bottoms over 1 foot 3 inches 380 millimeter wide shall be braced with wood members glued in place.

Drawer sides and backs: 1/2-inch 15 millimeter particle board

Interior partitions or dividers: 1/2-inch 15 millimeter particle board

Shelves: Supported on ends and 24 inches 600 millimeter on centers

Adjustable shelves: 3/4-inch 20 millimeter particle board

Base cabinet shelves: 5/8-inch 16 millimeter particle board

Wall cabinet shelves: 1/2-inch 13 millimeter particle board

2.5 STEEL CABINET FABRICATION

2.5.1 General

Wall and base cabinets shall be of essentially the same construction, fabricated from cold-rolled furniture steel not lighter than 22-gage 0.85 millimeter, except that backs of cabinets and backs of doors may be 24-gage 0.70 millimeter steel. Wall cabinets shall have corner mullions of full-wrap construction consisting of three 90-degree bends, with no raw edges or flanges exposed. Base cabinets shall be equipped with fixed top rails and shall have an integral subbase forming a recessed toe space 4 inches 100 millimeter high and not less than 2-1/2-inches 65 millimeter deep. Welds shall be flush and ground smooth on exposed surfaces. Heads of screws and bolts shall not show in exposed exterior surfaces. Doors and drawer fronts shall be double-wall, panel-type construction, not less than 1/2-inch 15 millimeter thick, with a sound-absorbing material cemented between the walls. Doors and drawers shall be equipped with rubber or plastic silencers or bumpers. Drawers shall have removable fronts, shall be mounted on [metal guides] [renewable fiber] [plastic guides] and shall be equipped with position stops to avoid accidental complete withdrawal. Shelving shall be [fixed] [adjustable] as indicated, and shall be formed on four sides with two additional 90-degree bends on front edge.

2.5.2 Workmanship

End panels, top rails, bottoms and vertical posts shall be aligned at

intersections in same plane, without overlap.

Exposed welds shall be ground flush and smooth.

2.5.3 Minimum Thickness of Steel

	U.S. STANDARD GAGE	THICKNESS (INCH)
Hinge reinforcement, tapping strips, gussets, drawer runners	14	0.0747
Cabinet top rail, hanging brackets, frame, and base	16	0.0598
Outer door pan and slide support, cross rails, cabinet fronts, scribe strips, and fillers	18	0.478
Shelves, other steel items	20	0.0359

	U.S. STANDARD GAGE	THICKNESS (MILLIMETER)
Hinge reinforcement, tapping strips, gussets, drawer runners	14	1.9
Cabinet top rail, hanging brackets, frame, and base	16	1.6
Outer door pan and slide support, cross rails, cabinet fronts, scribe strips, and fillers	18	1.3
Shelves, other steel items	20	1.0

2.5.4 Cabinets

Cabinets shall have sheet steel fronts, backs, sides, tops, and bottoms.

Sides shall be formed with rabbeted stiles 1-1/8-inches 28 millimeter wide, closed by welded channel containing embossed louvers spaced 1-1/2 inches 40 millimeter on center, for adjustable shelves.

Cabinets shall have a steel channel-shaped top rail, 18-gage 1.3 millimeter steel cross rails, and Z-shaped rear rail to engage 16-gage 1.6 millimeter steel hanging bracket.

At base cabinets, 1-1/2-inch 40 millimeter long leveling screws shall be provided for adjusting to floor variations and shall be accessible through plugged openings in bottom; 14-gage 1.9 millimeter gussets shall be installed to support the screws.

At base cabinets, removable backs, knee space panels, or access doors shall be provided where piping occurs.

2.5.5 Doors

Doors shall be double-pan construction with 5/8-inch 16 millimeter thick telescoped inner pan into outer pan with exposed vertical edge formed into channel shape having returned lip over inner pan and offset to receive lip.

Panels shall be coated with 1/8-inch 3 millimeter thick asphaltic sound deadener.

Reinforcement shall be fastened for hardware attachment to inner pan and shall be concealed.

Hinged doors shall be fitted with pairs of hinges, knob pulls, locks, and bumpers.

Inside edge of cutout in front panel of glass door shall be beveled.

Glass shall be set in continuous rubber gasket between panels.

Sliding doors shall be equipped with tracks, guides, bumpers, and bar pulls.

Doors for the exposed fronts of metal cabinets shall be:

[Plastic-laminate-covered particle board]

[Hardwood plywood]

[Sound-deadened metal]

Doors shall be not less than 1/2-inch 15 millimeter thick.

Plastic laminated doors shall be constructed with particle-board cores and sheets of [melamine] [polyester plastic] laminated under pressure with a water-resistant adhesive; doors shall be edge trimmed and sealed with a matching durable plastic trim molding. Hardware and fastenings for doors with particle-board cores shall be of the through-bolt type.

2.5.6 Drawers

Drawer fronts shall be double-pan construction with 5/8-inch 16 millimeter thick telescoped inner pan into outer pan with exposed vertical edge formed into channel shape having return lip over inner pan and offset to receive lip. Drawer bodies shall be welded to front through flanges on sides and bottom, and to back through flanges at rear.

Flanges shall be extended outward or downward, top of side, and backrolled.

Corners shall be coved to 1/2-inch 15 millimeter radius.

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NOTE: Delete locks when not applicable.

When width of drawer exceeds 24 inches 610 millimeter, two pulls are required.

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Drawer accessories shall consist of slides, bar pulls, and lock and stop devices.

2.5.7 Shelves

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NOTE: Stainless steel must be specified when sanitation is critical.

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Shelves shall be fabricated from sheet steel with front and rear edges flanged down 3/4 inch 20 millimeter and hemmed back at 30 degrees to underside of shelf.

Shelves shall be fabricated from corrosion-resistant steel sheet with front and rear edges flanged down 3/4 inch 20 millimeter and hemmed back at 30 degrees to underside of shelf.

Shelves shall be supported with 16-gage 1.6 millimeter shelf clips inserted in slots in front stile and in form channel in back.

Flanges shall be notched at sides to match and engage with embossments on side panels.

2.5.8 Dustcover Tops

Front face height shall be 1 inch 25 millimeter.

Dustcover tops shall be sloped upward 30 degrees from front to back of cabinet.

Dustcover tops shall be equipped for attaching from inside of cabinet.

2.5.9 Finish

Steel cabinets shall be primed and factory-finished with two coats of synthetic enamel, baking quality, conforming to FS TT-E-489, Class B. Colors shall be as selected.

2.6 COUNTER TOP AND BACK SPLASH FABRICATION

Counter tops and back splash shall be constructed of [[plywood] [wood] [particle board] covered with a [shop-applied plastic laminate] [corrosion-resistant steel]] [an integral corrosion-resistant steel top without backing].

Plywood shall be a water-resistant type, Grade B-D Douglas fir plywood, with a minimum thickness of 3/4 inch 20 millimeter. Back splash shall be

[plywood] [hardwood] 3/4-inch 20 millimeter thick by the height indicated.

Particle board shall be as specified with a minimum thickness of 3/4 inch 20 millimeter. Edges and opening around sink rim shall be built up with hardwood strips. Back splash shall be of similar construction, a minimum of 3/4-inch 20 millimeter thick by the height indicated.

Steel shall be not lighter than 22-gage 0.85 millimeter corrosion-resistant steel for backed construction and not lighter than 18-gage 1.3 millimeter corrosion-resistant steel for integral construction. Steel tops shall be reinforced on edges and around sink-rim opening. Counters shall be of one-piece construction; where corrosion-resistant sink bowls are provided, joints shall be welded and polished smooth. Joints between sink, counter top, and back splash shall be made watertight. Back splash shall be of the same material as counter top and shall be formed with square edges. Height shall be as indicated.

Plastic laminate shall be continuous sheet of the longest length practicable and of the design and color selected. Joints in the surface sheeting shall be tight and flush, and held to a practical minimum number.

Edging and trim:

For plastic-laminate-covered counter tops and back splash, the edging and trim shall consist of:

Strips of laminate cut and fitted to exposed edges with contact adhesive

Corrosion-resistant steel molding applied to exposed edges and at the intersection of the top and back splash with a concealed fastening system

For corrosion-resistant steel counter tops and back splash, the edging and trim shall be formed as an integral part of the top.

Sink rims shall be standard products of a manufacturer regularly producing this type of equipment, and shall be fabricated from corrosion-resistant steel of the size necessary to receive the sinks.

Chopping block shall be of the size and in the location indicated. Chopping block shall be:

Portable type, of solid edge-grain clear maple, minimum 3/4-inch 20 millimeter thick, sized to fit on a suitable rack for storage

Stationery type or built-up, edge-grain clear maple, minimum 1-1/2-inches 40 millimeter thick, installed in a counter top

Chopping blocks shall not be mounted in the toprail of base cabinets.

2.7 SURFACING

2.7.1 Laminated Plastic Surfacing

Plastic sheeting shall be laminated to faces and exposed edges of particle board at 20 pounds per square inch and 185 degrees F 138 kilopascal and 85 degrees C.

Backing sheet shall be applied to concealed faces.

2.7.2 Corrosion-Resistant Steel Surfacing

Counters and work surfaces shall be formed of 16-gage 1.6 millimeter sheets with exposed edges returned.

Hat-shaped channels, 16-gage 1.6 millimeter, shall be used for reinforcement, spaced 30 inches 760 millimeter on center.

Surfaces shall be equipped with wood strips under edges for fastening to cabinets.

Internal corners shall be coved to 1/2-inch 15 millimeter radius.

Underside shall be coated with 1/8-inch 3 millimeter thick sound deadener.

Joints shall be electrically welded, ground smooth, and polished to match adjacent finish.

2.8 MISCELLANEOUS CABINETS

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NOTE: Delete inapplicable paragraphs, or state appropriate options.

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2.8.1 Combination Sink-and-Base Cabinet

A combination sink-and-base cabinet unit may be furnished in lieu of the base cabinet and inset sink indicated provided the combination unit affords facilities and space equal to those indicated and provided the combination unit matches the adjacent units in materials and construction. Sink, with matching drainboards, shall be [corrosion-resistant steel] [porcelain-enamel steel] and shall be equipped with a chromium-plated [swinging-spout faucet, chromium-plated water-control valves,] [automatic faucet] and chromium-plated cup strainer. Joints between sink and drainboard and between drainboard and counter top shall be made watertight.

2.8.2 Special Purpose Cabinets

Special-purpose cabinets, such as cabinets for eye-level oven units, countertop range units, and built-in refrigerators and desks, shall be furnished as indicated and shall be of same materials and construction as adjacent cabinets. Space shall be provided adjacent to sink for a dishwasher, as indicated.

2.9 ACCESSORIES AND HARDWARE

Accessories such as utility shelves and racks for extracts, condiments, and towels; bins for sugar and flour; breadboxes; and trays for cutlery and flatware shall be furnished as indicated.

Hardware shall be corrosion resistant. Exposed hardware shall have a chromium-plated finish or a corrosion-resistant finish as approved. Semiconcealed hinges on cabinets where paint finish is required shall be painted to match the cabinets. Doors shall be equipped with [bullet-type catches] [spring hinges] [magnetic-type catches]. Door and drawer pulls shall be as indicated.

PART 3 EXECUTION

3.1 FIELD FINISHING OF WOOD CABINETS

[For painted finish, a prime coat and two coats of synthetic enamel of air-drying quality, conforming to FS TT-E-489, Class A, shall be applied. Colors shall be as selected.]

[For natural finish, the applicable procedure for the type of wood shall be followed:

For open-grain woods: One coat of paste wood filler shall be applied, and excess filler shall be removed. One coat of pale varnish thinned with turpentine shall then be applied, followed by one coat of pale varnish and then by one coat of satin-finish varnish, plus an additional coat of satin-finish varnish on cabinet doors and drawer fronts. Surfaces shall be lightly sanded between coats.

For close-grain woods: One coat of pale varnish thinned with turpentine shall be applied, followed by one coat of pale varnish and then by one coat of satin-finish varnish, plus an additional coat of satin-finish varnish on cabinet doors and drawer fronts. Surfaces shall be lightly sanded between coats.]

At the Contractor's option, wood cabinets with a factory finish standard set by the cabinet manufacturer may be provided.

3.2 INSTALLATION

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NOTE: Installation of sinks shall be per the requirements of Section 15102, "Plumbing."

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Casework shall be installed plumb with countertops level to within 1/16 inch in 10 feet 1 millimeter in 3000 millimeter.

Base cabinets shall be leveled by adjusting leveling screws.

Scribe strips shall be scribed and fitted to irregularities of adjacent

surfaces. Gap opening shall not exceed 0.025 inch 0.63 millimeter.

Cases shall be secured permanently to floor and wall construction using 1/4-inch 6 millimeter diameter masonry anchors, spaced 30 inches 760 millimeter maximum on center, minimum of two for each case.

Wall cases shall be supported on continuous 18-gage 1.3 millimeter galvanized steel hanging brackets.

Wall cases shall be secured in position with screws to blocking.

Adjoining cases shall be bolted together. Width of joints shall not exceed 1/32 inch 0.79 millimeter.

Closer strips, filler strips, and finish moldings shall be provided as required.

Doors shall be aligned, hardware adjusted, and surfaces cleaned and waxed.

Installation Drawings shall be submitted for steel and wood cabinets. Drawings shall include location of cabinets, details of cabinets related and dimensional positions, and locations for roughing in plumbing, including sinks, faucets, strainers and cocks.

3.3 CLEANING

On completion of cabinet installation, marred or abraded finished surfaces shall be touched up.

Crating and packing materials shall be removed from premises.

Surfaces shall be wiped down to remove fingerprints and markings and shall be left in clean condition.

3.4 INSPECTION

Casework grounds and supports shall be examined for adequate anchorage, foreign material, moisture, and unevenness that could prevent quality casework installation.

Ensure that electrical and plumbing rough-ins for casework are complete.

Do not proceed with installation until defects are corrected.

-- End of Section --